

**Double Pole, Electrically Held, 1 Amp and Less** (Continued)

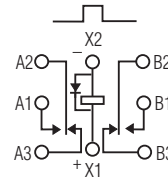
**MGS, MGSD, MGSDD**

**MGS**  
Sensitive .100 Grid  
High Performance Relay  
Qualified to  
MIL-R-39016/41



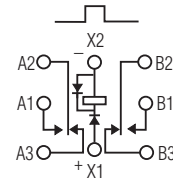
Terminal View

**MGSD**  
Sensitive .100 Grid  
Diode Suppressed  
High Performance Relay  
Qualified to  
MIL-R-39016/42



Terminal View

**MGSDD**  
Sensitive .100 Grid Diode  
Suppressed/Protected  
High Performance Relay  
Qualified to  
MIL-R-39016/43



Terminal View

**Product Facts**

- Hermetically sealed
- High shock & vibration ratings
- Mounting pads
- Excellent RF switching

**Product Facts**

- Suppression diode
- Hermetically sealed
- High shock & vibration ratings
- Mounting pads
- Excellent RF switching

**Product Facts**

- Suppression & protection diodes
- Hermetically sealed
- High shock & vibration ratings
- Mounting pads
- Excellent RF switching

**Electrical Characteristics**

**Contact Arrangement** — 2 Form C (DPDT)

**Contact Material** — Stationary — Gold/platinum/palladium/silver (gold plated)  
Moveable — Gold/platinum/palladium/silver (gold plated)

**Contact Resistance** — Before Life — 100 milliohms max. (measured @ 10 mA @ 6 Vdc)  
After Life — 200 milliohms max. (measured @ 1 A @ 28 Vdc)

**Mechanical Life Expectancy** — 1 million operations

**Coil Voltage** — 5 to 48 Vdc

**Coil Power** — 565 mW max. @ 25°C

**Duty Cycle** — Continuous

**Pick-up Voltage** — Approximately 50% of nominal coil voltage

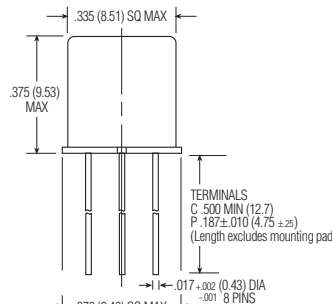
**Pick-up Sensitivity** — 60 mW max. @ 25°C

**Contact Ratings**

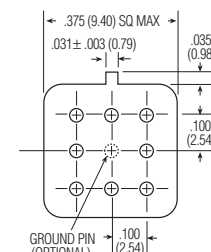
| Contact Load                     | Type                          | Operations Min. |
|----------------------------------|-------------------------------|-----------------|
| 1.0 A @ 28 Vdc                   | Resistive                     | 100,000         |
| 250 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive (case not grounded) | 100,000         |
| 100 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive                     | 100,000         |
| 0.2 A @ 28 Vdc                   | Inductive (0.32 Henry)        | 100,000         |
| 0.1 A @ 28 Vdc                   | Lamp                          | 100,000         |
| 30 µA @ 50 mVdc                  | Low Level                     | 1,000,000       |
| 0.1 A @ 28 Vdc                   | Intermediate Current          | 50,000          |



MGS



MGS/MGSD/MGSDD Enclosure



MGS/MGSD/MGSDD Header

**Double Pole, Electrically Held, 1 Amp and Less** (Continued)

**MGS, MGSD, MGSDD**  
(Continued)

**Operating Characteristics**

**Timing** —  
Operate Time — 4.0 ms max.  
Release Time —  
MGS — 2.0 ms max.  
MGSD/MGSDD — 7.5 ms max.  
(suppression diode, protection/  
suppression diodes)  
**Contact Bounce** — 1.5 ms max.  
**Dielectric Withstanding Voltage** —  
Between Open Contacts —  
500 Vrms 60 Hz  
Between Adjacent Contacts —  
500 Vrms 60 Hz  
Between Contacts & Coil —  
500 Vrms 60 Hz  
**Insulation Resistance** —  
10,000 megohms min. @ 500 Vdc  
1,000 megohms @ 500 Vdc  
(coil to case @ +125°C)

**Environmental Characteristics**

**Temperature Range** —  
-65°C to +125°C  
**Weight** —  
0.09 oz. (2.55 gms)  
0.129 oz. (3.45 gms) w/ mounting pad  
attached  
**Vibration Resistance** —  
30 G's, 10 to 3,000 Hz  
**Shock Resistance** —  
75 G's, 6 ±1 ms max.  
**QPL Approval** —  
MIL-R-39016/41 (JMGS)  
MIL-R-39016/42 (JMGS)  
MIL-R-39016/43 (JMGSDD)

**Semiconductor Characteristics**

**Diode** —  
100 Vdc peak inverse voltage (PIV)  
1.0 Vdc max. transient voltage



MGS/MGSD/MGSDD  
Mounting Pad

**Coil Data**

| Nom. Coil Voltage (Vdc) | Coil Resistance in Ohms ±10% @ 25°C (Note) | Coil Circuit Current mA (Max.) (Note) | Coil Circuit Current mA (Min.) (Note) | Pickup Voltage Vdc (Max.) @ 25°C | Pickup Voltage Vdc (Max.) @ 125°C | Drop-Out Voltage Vdc (Min.) @ 25°C | Drop-Out Voltage Vdc (Min.) @ -65°C | Nom. Coil Power (mW) @ 25°C | Max. Coil Voltage | Coil Desig. |
|-------------------------|--|---------------------------------------|---------------------------------------|----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|-----------------------------|-------------------|-------------|
| <b>MGS/MGSD</b>         |  |                                       |                                       |                                  |                                   |                                    |                                     |                             |                   |             |
| 5.0                     | 100  | n/a                                   | n/a                                   | 2.6                              | 3.5                               | 0.23                               | 0.12                                | 250                         | 7.5               | 5           |
| 6.0                     | 200  | n/a                                   | n/a                                   | 3.4                              | 4.5                               | 0.28                               | 0.18                                | 180                         | 10.0              | 6           |
| 9.0                     | 400  | n/a                                   | n/a                                   | 4.85                             | 6.8                               | 0.55                               | 0.35                                | 203                         | 15.0              | 9           |
| 12.0                    | 800  | n/a                                   | n/a                                   | 7.0                              | 9.0                               | 0.64                               | 0.41                                | 180                         | 20.0              | 12          |
| 18.0                    | 1,600                                      | n/a                                   | n/a                                   | 9.8                              | 13.5                              | 0.92                               | 0.59                                | 203                         | 30.0              | 18          |
| 26.5                    | 3,200                                      | n/a                                   | n/a                                   | 14.0                             | 18.0                              | 1.4                                | 0.89                                | 219                         | 40.0              | 26          |
| 36.0                    | 6,500                                      | n/a                                   | n/a                                   | 20.0                             | 27.0                              | 1.8                                | 1.25                                | 199                         | 57.0              | 36          |
| 48.0                    | 11,000                                     | n/a                                   | n/a                                   | 25.8                             | 36.0                              | 2.4                                | 1.60                                | 209                         | 75.0              | 48          |
| <b>MGSDD</b>            |  |                                       |                                       |                                  |                                   |                                    |                                     |                             |                   |             |
| 5.0                     | 64   | 78.1                                  | 56.8                                  | 2.9                              | 3.7                               | 0.8                                | 0.7                                 | 391                         | 7.5               | 5           |
| 6.0                     | 125  | 48.9                                  | 36.3                                  | 4.0                              | 4.8                               | 0.9                                | 0.8                                 | 288                         | 10.0              | 6           |
| 9.0                     | 400  | 23.6                                  | 18.1                                  | 6.1                              | 8.0                               | 1.1                                | 0.9                                 | 203                         | 15.0              | 9           |
| 12.0                    | 800  | 16.0                                  | 12.5                                  | 7.8                              | 11.0                              | 1.3                                | 1.0                                 | 180                         | 20.0              | 12          |
| 18.0                    | 1,600                                      | 12.2                                  | 9.6                                   | 11.3                             | 14.5                              | 1.5                                | 1.1                                 | 203                         | 30.0              | 18          |
| 26.5                    | 3,200                                      | 9.0                                   | 7.2                                   | 15.2                             | 19.0                              | 1.7                                | 1.3                                 | 219                         | 40.0              | 26          |
| 36.0                    | 6,500                                      | 6.1                                   | 4.9                                   | 21.7                             | 27.2                              | 2.3                                | 1.7                                 | 199                         | 57.0              | 36          |
| 48.0                    | 11,000                                     | 4.8                                   | 3.9                                   | 27.8                             | 34.8                              | 2.8                                | 2.0                                 | 209                         | 75.0              | 48          |

**Note:** Coil resistance not directly measurable. Coil current should be within limits shown when tested at nominal voltage at 25°C for 5 seconds max.

**Ordering Instructions**

Catalog-selected Relays: The catalog number is derived by choosing the proper CODE for each of the relay characteristics in the order in which the codes are listed.

|  |             |                  |               |                    |              |                      |
|--|-------------|------------------|---------------|--------------------|--------------|----------------------|
| <b>Specifying a Part Number Example:</b> | <b>Type</b> | <b>Terminals</b> | <b>Diodes</b> | <b>Ground Pins</b> | <b>Coils</b> | <b>Mounting Pads</b> |
|  | MGS         | C                | D             | G                  | -26          | W                    |

\* The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

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